

RESOLUTION NO. R3-2005-0132

ATTACHMENT - PROPOSED BASIN PLAN AMENDMENTS

AMENDMENT NO. 1. Revise the September 8, 1994 Basin Plan, Chapter 4 as follows:

Add the following to Chapter 4 after IX. G.:

IX. H. PAJARO RIVER TOTAL MAXIMUM DAILY LOADS FOR SEDIMENT INCLUDING LLAGAS CREEK, RIDER CREEK, AND SAN BENITO RIVER

The Regional Water Quality Control Board adopted this TMDL on December 2, 2005.

This TMDL was approved by:

The State Water Resources Control Board on September 21, 2006.

The California Office of Administrative Law on November 27, 2006. (*Effective date*)

The U.S. Environmental Protection Agency on May 3, 2007.

Problem Statement

Anthropogenic watershed disturbances have accelerated the natural processes of erosion and sedimentation in the Pajaro River, including Llagas Creek, Rider Creek, and San Benito River. Special studies have identified a variety of watershed conditions that have lead to excessive sedimentation. Excessive sedimentation has caused an exceedance of the narrative, general water quality objective for sediment because sediment load and rate have interfered with the beneficial uses of these waterbodies including, fish and wildlife (COLD, MIGR, and SPWN).

The narrative objective states, “the suspended sediment load and suspended sediment discharge rate of surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.”

Numeric Targets (interpretation of the narrative water quality objective)

This TMDL establishes numeric targets as indicators of the narrative, general water quality objective for sediment. This TMDL uses two types of numeric targets: suspended sediment concentration-duration and streambed characteristics. Numeric targets for suspended sediment concentration-duration are presented in Table 1. Numeric targets for streambed characteristics are presented in Table 2.

Table 1 - Numeric Targets for Suspended Sediment Conditions

Major Subwatershed ^a	Exposure Category ^b		Exceedance Event Criteria		Numeric Targets ^c	
	Duration (consecutive days)	Suspended Sediment Concentration Range (mg/L) ^d	Duration (consecutive days)	Suspended Sediment Concentration (mg/L)	Maximum Number of Exceedance Events	Maximum Duration of any given Exceedance Event (consecutive days)
Tres Pinos	1	666 – 1808	2	>1808	15	22
	2	245 – 665	3	>665	42	44
	6	91 – 244	7	>244	36	51
	14	91 – 244	15	>244	20	51
	49	33 – 90	50	>90	5	108
San Benito	1	666 – 1808	2	>1808	9	9
	2	245 – 665	3	>665	30	21
	6	91 – 244	7	>244	29	35
	14	91 – 244	15	>244	14	35
	49	33 – 90	50	>90	2	60
Llagas	1	666 – 1808	2	>1808	0	0
	2	245 – 665	3	>665	0	1
	6	91 – 244	7	>244	9	15
	14	91 – 244	15	>244	1	15
	49	33 – 90	50	>90	0	28
Uvas	1	666 – 1808	2	>1808	1	3
	2	245 – 665	3	>665	12	8
	6	91 – 244	7	>244	12	15
	14	91 – 244	15	>244	1	15
	49	33 – 90	50	>90	0	18
Upper Pajaro	1	666 – 1808	2	>1808	0	1
	2	245 – 665	3	>665	3	3
	6	91 – 244	7	>244	2	9
	14	91 – 244	15	>244	0	9
	49	33 – 90	50	>90	0	33
Corralitos (includes Rider Creek)	1	666 – 1808	2	>1808	0	1
	2	245 – 665	3	>665	0	2
	6	91 – 244	7	>244	8	11
	14	91 – 244	15	>244	0	11
	49	33 – 90	50	>90	0	36
Mouth of Pajaro	1	666 – 1808	2	>1808	0	1
	2	245 – 665	3	>665	0	2
	6	91 – 244	7	>244	8	11
	14	91 – 244	15	>244	0	11
	49	33 – 90	50	>90	0	36

^a Major subwatersheds of the Pajaro River.

^b Five exposure categories per major subwatershed. Each exposure category is comprised two components: a duration (consecutive days) and a suspended sediment concentration (SSC) range in milligrams per liter (mg/L).

^c Numeric targets are comprised of two components: a maximum number of exceedance events that may occur in any consecutive 15 years after development of the monitoring program and the maximum duration (consecutive days) in which the maximum SSC value for each range can be exceeded in 15 years. Exceedance events are specific to each exposure category and consist of consecutive days in which the duration and the maximum SSC value for each range is exceeded. Using the exposure category of 1-day, 666-1,808 mg/l SSC range for Tres Pinos as an example; the maximum number of exceedance events (e.g. 2-days or longer and greater than 1,808 mg/L) is 15. The maximum duration is 22 days. Using the same Tres Pinos example, numeric targets are not met if the number of exceedance events is 16 (or more) or if the maximum duration of any event is 23 consecutive days or longer.

^d Numbers rounded to show measurable break in the range.

Table 2 - Numeric Targets for Streambed Characteristics

Parameter	Numeric Target ¹
Residual Pool Volume ²	V* = Mean values ≤ 0.21 Max values ≤ 0.45
Median Diameter (D ₅₀) of Sediment Particles in Spawning Gravels	D ₅₀ = Mean values ≥ 69 mm Minimum values ≥ 37 mm
Percent of Fine Fines (< 0.85 mm) in Spawning Gravels	Percent fine fines $\leq 21\%$
Percent of Coarse Fines (< 6.0 mm) in Spawning Gravels	Percent coarse fines $\leq 30\%$

Target values are for sampling reach(es) within an individual waterbody.

² Residual Pool Volume refers to the portion of a pool in a stream that is available for fish to occupy. Pool habitat is the primary habitat for steelhead in summer. Overwintering habitat requirements include deeper pools, undercut banks, side channels, and especially large, unembedded rocks, which provide shelter for fish against the high flows of winter. V* gives a direct measurement of the impact of sediment on pool volume. It is the ratio of the amount of *pool volume filled by fine, mobile sediment*, to *total pool volume*. Qualifying pools are defined by Regional Board sampling protocol (2002).

Source Analysis

Sources of sediment include the following nonpoint and point source discharge activities occurring within the respective land use source categories. Nonpoint sources include irrigated agriculture activities upon crop, fallow and orchard lands; timber harvesting activities upon forested lands; grazing activities upon pasture and range lands; urban and rural residential development, roads, farm animal and livestock boarding upon urban lands; unpaved roads in the San Benito watershed, and paved and unpaved roads in the Corralitos Creek and Rider Creek watersheds upon lands in the roads landuse category; hydromodification-related activities upon all types of land use; off-road recreational vehicle areas; sand and gravel mining; as well as natural erosion and landslides. Point sources include the small Municipal Separate Storm Sewer Systems (MS4s) of Watsonville, Hollister, Gilroy, and Morgan Hill.

TMDLs and Allocations

TMDLs and load allocations are assigned to sources for seven watersheds as represented in Table 3. These allocations are modeled load values that are necessary to meet the suspended sediment concentration-duration targets. The Regional Board will determine that the TMDL is attained when the numeric targets are achieved. When numeric targets are achieved, the Regional Board will assume that these loads are met.

Margin of Safety

The total load includes an implicit margin of safety that was derived through conservative assumptions.

Table 3 – TMDLs and Load Allocations

Major Subwatershed	Allocations ¹ (LA/WLA)	Source Category							Total Load
		Crop, Fallow, and Orchard	Forest ²	Pasture and Range	Urban Lands ³	Roads	Barren ²	Sand and Gravel Mining	
Tres Pinos	LA	477	352	41085	312		11551		53,778
	WLA				1				
San Benito	LA	1971	2083	19863	327	1180	14128	27	39,679
	WLA				100				
Llagas	LA	596	326	6978	354		144	0	9,185
	WLA				787				
Uvas	LA	946	989	12454	280		369		15,177
	WLA				139				
Upper Pajaro	LA	4114	1228	37664	356		425	3	43,951
	WLA				161				
Corralitos (including Rider Creek)	LA	3544	4536	2427	443	79	73	2	11,389 ⁴
	WLA				284				
Mouth of Pajaro	LA	3047	58	3055	383		500	35	7,268 ⁴
	WLA				191				

Notes:

¹ Annual load allocations (LA) and waste load allocations (WLA) expressed in metric tons (1 metric ton equals 1,000 kilograms). Blank cells indicate no allocations for specified source category.² Forest includes loads from natural sources and from timber harvesting operations; Barren includes loads from natural sources only.³ Load allocations for urban lands outside of NPDES Phase 2 urban boundaries. Waste load allocations for urban lands within NPDES Phase 2 urban boundaries.⁴ Number rounded.**Implementation**

The following actions will be taken to reduce sediment discharges from activities that occur within each of the land use source categories (headings) below. Regional Board staff intends to identify and notify the parties responsible for the activities according to the schedule below; however, if staff resources are insufficient or other water quality priorities emerge, this schedule will be modified.

Crop, Fallow, and Orchard Lands

Landowners and operators of crop, fallow, and orchard lands, where irrigated agricultural activities are conducted, will implement agricultural management measures and perform monitoring and reporting pursuant to the Conditional Waiver of Waste Discharge Requirements for Discharges from Irrigated

Lands and the Monitoring and Reporting Program, Order No. R3-2004-0117. This is an existing, on-going activity.

Forest Lands

Landowners and operators of forest lands, where timber harvest activities are conducted, will implement timber harvest management measures and perform monitoring and reporting pursuant to the General Conditional Waiver of Waste Discharge Requirements for Timber Harvest Activities and the Monitoring and Reporting Program, Order No. R3-2005-0066. This is an existing, on-going activity.

Pasture and Range

Owners and operators of pasture and range lands, where grazing activities occur, must comply with the land disturbance prohibition.

Within one year following approval of the TMDLs by the Office of Administrative Law, the Executive Officer will notify the owners and operators of pasture and range lands of the prohibition and conditions for compliance with the prohibition. The Executive Officer will review and approve, or request modification of, the Nonpoint Source Pollution Control Implementation Program (Program) or documentation submitted in compliance with the prohibition within six months of the submittal date. Should the Program or documentation require modification, or if a party fails to submit a Program or documentation, the Executive Officer may issue a civil liability complaint pursuant to section 13268 or 13350 of the CWC, or alternatively, propose individual or general waste discharge requirements to assure compliance with the prohibition.

Urban Lands

Urban lands include the small communities of Watsonville, Hollister, Gilroy, and Morgan Hill (cities), rural properties throughout the watershed with farm animals or livestock boarding (rural properties), and roads throughout the watershed. These lands do not include unpaved roads in San Benito River watershed, and paved and unpaved roads within the Corralitos Creek and Rider Creek subwatersheds (See Roads below).

The cities must obtain a Municipal Separate Storm Sewer System (MS4) permit. Their Storm Water Management Programs must include specific actions to reduce sediment discharges pursuant to Clean Water Act Section 402(p)(3)(B) and Section D of State Board Order No. 2003-005, NPDES General Permit No. CAS000004 for Storm Water Discharges from Small Municipal Separate Storm Sewer Systems. The cities will then describe the actions taken as part of their annual report. If necessary, the Regional Board's Executive Officer can require more stringent sediment controls. This is an existing requirement and an on-going activity.

Owners and operators of rural properties and roads must comply with the land disturbance prohibition.

Within one year following approval of the TMDLs by the Office of Administrative Law, the Executive Officer will notify the owners and operators of rural properties and roads of the prohibition and conditions for compliance with the prohibition. The Executive Officer will review and approve, or request modification of, the Program or documentation submitted in compliance with the prohibition within six months of the submittal date. Should the Program or documentation require modification, or if a party fails to submit a Program or documentation, the Executive Officer may issue a civil liability complaint pursuant to section 13268 or 13350 of the CWC, or alternatively, propose individual or general waste discharge requirements to assure compliance with the prohibition.

Roads

Within one year following approval of the TMDLs by the Office of Administrative Law, the Executive Officer will notify the owners and operators of unpaved roads within the San Benito River watershed and paved and unpaved roads within the Corralitos Creek and Rider Creek watersheds of the prohibition and conditions for compliance with the prohibition. The Executive Officer will review and approve, or request modification of, the Program or documentation submitted in compliance with the prohibition within six months of the submittal date. Should the Program or documentation require modification, or if a party fails to submit a Program or documentation, the Executive Officer may issue a civil liability complaint pursuant to section 13268 or 13350 of the CWC, or alternatively, propose individual or general waste discharge requirements to assure compliance with the prohibition.

Sand and Gravel Mining

Within six months following approval of the TMDLs by the Office of Administrative Law and pursuant to Section 13263(e) of the CWC, Regional Board staff will review existing waste discharge requirements (WDRs) for sand and gravel mining operations and revise or require activities to: 1) assess cumulative impacts, including fluvial geomorphic impacts, upon the beneficial uses of the San Benito River; 2) mitigate the impacts identified; and 3) monitor the effectiveness of mitigation activities. One year following approval of the TMDLs by the Office of Administrative Law, pursuant to Section 13267 of the CWC, the Executive Officer will require owners and operators of sand and gravel mining operations to submit a plan to assess cumulative impacts, including fluvial geomorphic impacts, upon the beneficial uses of the San Benito River. The Executive Officer will comply with the requirements of section 13267 when issuing the orders. Regional Board staff will encourage sand and gravel mining operators to conduct the cumulative impacts assessment cooperatively.

Streambank Erosion

Owners and operators of properties where hydromodification activities occur must comply with the land disturbance prohibition.

Within one year following approval of the TMDLs by the Office of Administrative Law, the Executive Officer will notify the owners and operators of properties where hydromodification activities occur of the prohibition and conditions for compliance with the prohibition. The Executive Officer will review and approve, or request modification of, the Program or documentation submitted in compliance with the prohibition within six months of the submittal date. Should the Program or documentation require modification, or if a party fails to submit a Program or documentation, the Executive Officer may issue a civil liability complaint pursuant to section 13268 or 13350 of the CWC, or alternatively, propose individual or general waste discharge requirements to assure compliance with the prohibition.

Monitoring

Regional Board staff will develop a monitoring program to measure in-stream numeric targets within five years following TMDL approval. The program will be consistent with other Central Coast Region sediment TMDLs, regional sediment monitoring programs, and in cooperation with implementing parties. If Regional Board staff concludes that sediment contributions from individual landowners should be monitored in addition to in-stream numeric targets, the Executive Officer will establish such monitoring requirements in compliance with section 13267.

Tracking and Evaluation

Regional Board staff will conduct a review every three years beginning three years after TMDL approval by the Office of Administrative Law. Regional Board staff will utilize required reports, as well as other available information, to review implementation efforts of responsible parties and progress being made towards achieving the allocations. Regional Board staff will also review numeric target monitoring (see above) to determine progress towards TMDL achievement in the waterbody. The numeric targets, not

actual loads or reductions in loads, will be measured, as they are a more direct indicator of beneficial use protection. Regional Board staff may conclude and articulate that ongoing implementation efforts may ultimately be insufficient to achieve the allocations and numeric targets. If staff makes this determination, staff will recommend that additional reporting, monitoring, or implementation efforts be required either by the Executive Officer (e.g. pursuant to CWC section 13267 or section 13383) or by the Regional Board (e.g. through revisions of existing permits and/or a Basin Plan Amendment). At any particular date, Regional Board staff may conclude and articulate that implementation efforts and results are likely to result in achieving the allocations and numeric target, in which case existing and anticipated implementation efforts should continue.

Three-year reviews will continue until the TMDLs are achieved. The target date to achieve the TMDLs is forty-five years after implementation commences.

AMENDMENT NO. 2. Revise the September 8, 1994 Basin Plan, Chapter 4 as follows:

Add the following to the end of Chapter 4 in VIII.E.1, Land Disturbance Prohibitions:

The controllable discharge of soil, silt, or earthen material from any grazing, farm animal and livestock, hydromodification, road, or other activity of whatever nature into waters of the State within the Pajaro River watershed is prohibited.

The controllable discharge of soil, silt, or earthen material from any grazing, farm animal and livestock, hydromodification, road, or other activity of whatever nature to a location where such material could pass into waters of the State within the Pajaro River watershed is prohibited.

The above two prohibitions do not apply to any discharge regulated by National Pollutant Discharge Elimination System permits, Waste Discharge Requirements or waivers of Waste Discharge Requirements.

The above two prohibitions do not apply to any grazing, farm animal and livestock, hydromodification, or road activity if the owner or operator:

- i. Submits a Nonpoint Source Pollution Control Implementation Program, consistent with the *Policy for Implementation and Enforcement of the Nonpoint Source Pollution Control Program, May 20, 2004*, that is approved by the Executive Officer, or
- ii. Demonstrates there is no activity that may cause soil, silt, or earthen material to pass into waters of the state within the Pajaro River watershed, as approved by the Executive Officer.

This Land Disturbance Prohibition takes effect three years following approval of the TMDL by the U.S. Environmental Protection Agency.